

May 31, 1994

## **FACT SHEET**

### **PROPOSED AIR TOXICS RULE FOR THE SECONDARY LEAD SMELTER INDUSTRY**

#### **TODAY'S ACTION...**

- ◆ The Environmental Protection Agency (EPA) is issuing a proposed rule to reduce air toxic emissions from secondary lead smelters. Air toxics are those pollutants known or suspected of causing cancer or other serious health effects.
- ◆ Secondary lead smelters produce lead from scrap and provide the primary means for recycling lead-acid automotive batteries. Approximately 95% of all lead-acid batteries are recycled at secondary lead smelters.

#### **WHAT ARE THE HEALTH AND ENVIRONMENTAL BENEFITS?**

- ◆ The proposed rule would reduce emissions of air toxics by 2,200 tons annually.
- ◆ The proposed rule would also reduce emissions of other pollutants, including particulate matter ( e.g. soot, dust), and carbon monoxide. Carbon monoxide which can cause adverse health effects, including fatigue, nausea and respiratory problems, would be reduced by 91,000 tons annually.

#### **WHO WOULD BE AFFECTED BY THE PROPOSED RULE?**

- ◆ The Clean Air Act Amendments of 1990 requires EPA to regulate emissions of 189 listed toxic air pollutants. The proposed standard would apply to both major and area sources that comprise the Secondary Lead Smelter Industry. Major sources are defined as those sources that emit 10 tons annually of one or more of a listed pollutant or 25 tons or more of a combination of pollutants. Area sources are defined as those sources that emit hazardous air pollutants in quantities less than that of major sources.
- ◆ The Secondary Lead Smelter Industry is comprised of 23 smelters (15 major sources and 8 area sources) located in 13 States. EPA believes that emissions from area sources

in this industry present a risk to public health and have therefore been included in the proposed regulation. The proposed standards require the application of maximum achievable control technology (MACT) for these sources as defined by the Clean Air Act.

#### WHAT DO THE PROPOSED STANDARDS REQUIRE?

- ◆ Secondary lead smelters perform three basic unit operations: battery breaking, smelting, and refining and alloying. Battery breaking is accomplished by either crushing or cutting battery cases into pieces. The plastic, spent acid, and leaded materials are then separated. Lead bearing materials are processed in one of three types of smelting furnaces: blast, reverberatory, or rotary. Molten lead from these furnaces is further processed in refining kettles and subsequently cast into molds. The waste stream from the furnaces, called slag, is either returned to the primary smelting furnace or treated in a separate furnace dedicated to slag cleaning to recover additional lead.
- ◆ During the lead smelting process, emissions of air toxics are released from three types of sources. The proposed standards affect process sources, process fugitive sources, and fugitive dust sources.

#### PROCESS SOURCES

Process sources are the main exhaust points from the smelting furnace. These points emit toxic air pollutants, including lead compounds and other metals (e.g. chromium and cadmium), organic compounds, and hydrochloric acid.

- ◆ The following table outlines the emissions limits proposed in the standard for process sources. Lead is proposed as a surrogate for measurement of individual metal compounds, and total hydrocarbons (THC) is proposed as a surrogate for individual organic compounds. There are four types of furnaces associated with the lead smelting process that are covered by the proposed regulation.

Summary of Emission Limits for Process Sources

Furnace Type	MACT Equipment Mix	Lead Limita	THC Limitb	Cl- Limitc
--------------	--------------------	-------------	------------	------------

Blast furnace at an existing source	Afterburner (1300oF operating temp), baghouse, and Cl- controld	2 mg/dscm	350 ppmv	15 mg/dscm
Blast furnace at a new source	Afterburner (1600oF operating temp), baghouse, and Cl- controld	2 mg/dscm	70 ppmv	15 mg/dscm
Reverberatory or rotary furnace	Baghouse and Cl- controld	2 mg/dscm	NA	15 mg/dscm
Collocated reverberatory and blast furnace	Combining exhaust streams, baghouse, Cl- controld	2 mg/dscm	35 ppmv	15 mg/dscm
Electric furnace	Baghouse	2 mg/dscm	NA	NA

- <sup>a</sup> As measured by EPA Method 12.
- <sup>b</sup> As measured by EPA Method 25A, reported as propane corrected to 4% CO<sub>2</sub>.
- <sup>c</sup> Total chlorides measured by EPA Method 26A, reported as HCl corrected to 4% CO<sub>2</sub>.
- <sup>d</sup> Cl<sup>-</sup> control can be achieved either through wet scrubbing or the addition of fluxing agents to furnaces which promotes the removal of chlorides in slag.

EPA methods noted above are outlined in the proposed rule.

[mg = megagram, dscm = dry standard cubic meter, ppmv = parts per million volume]

{Afterburners remove carbon monoxide and organics from the process stream. Baghouses are filters that remove lead and particulates from the air stream before release into the atmosphere.}

#### PROCESS FUGITIVE SOURCES

Process fugitive sources also release toxic air pollutants during the smelting process and include smelting furnace charging points (where lead scrap is put into the furnace), smelting furnace lead and slag taps (where lead and waste materials are removed from the furnace), and refining kettles.

- ◆ Proposed standards for process fugitive sources include equipment and operational standards for the capture and containment of emissions, and a requirement that all captured emissions have less than 2 mg/dscm of lead.

#### FUGITIVE DUST SOURCES

Fugitive dust sources release toxic air pollutants at lead smelters that originate from sources such as roadways, storage piles, and other plant areas.

- ◆ Proposed standards for fugitive dust sources include an assortment of equipment and work practice standards. Minimum requirements include paving all plant areas subject to vehicular traffic, pavement cleaning twice per day, use of partial or total enclosures as windbreaks, frequent wetting of storage piles to suppress emissions, and operation of vehicle wash stations at appropriate locations. All control measures are to be detailed in a site-specific standard operating procedures (SOP) manual prepared by the operator and approved by EPA or the State.

## **MONITORING**

Annual testing would be required for lead on all baghouses using Method 12. An initial compliance test for THC using Method 25A and for total chlorides using Method 26A is also required.

(Methods are outlined in the proposed rule.)

### Process Sources

- ◆ Operators must maintain and operate continuous opacity monitors (COMs) on all process baghouses to demonstrate continuous compliance with the lead limits.
- ◆ Requirements for THC limits include the continuous monitoring of afterburner temperature or use of a continuous emission monitoring (CEM) for THC.
- ◆ If the chloride limit is achieved by adding fluxing agents to the furnace, monitoring and keeping appropriate records of the fluxing materials input to the furnace would be required. Monitoring can alternately be accomplished by using a HCl CEM. If the chloride limit is achieved through scrubbing, monitoring may be accomplished using an SO<sub>2</sub> CEM or by monitoring scrubber process parameters.

### Process Fugitive Sources

- ◆ Annual lead emission tests are required, coupled with baghouse inspection, and maintenance and operation using good engineering practices.

#### Fugitive Dust Sources

- ◆ Requirements, including implementation through a site-specific standard operating procedures manual (SOP), must be developed by the facility and approved by EPA or the State. Facilities must operate and keep records in accordance with their SOPs at all times to demonstrate continuous compliance with the provisions for fugitive dust sources.

### **NOTIFICATIONS AND REPORTING**

Notification and reporting is consistent with the air toxics General Provisions rule (part 63 of the CFR).

- ◆ Initial notification reports must be submitted to EPA within 45 days after publication of the final rule.
- ◆ Notification of intent to conduct a performance test must be submitted to EPA at least 75 days prior to the test.
- ◆ Initial notification of compliance must be sent to EPA within 45 business days following the completion of the relevant compliance demonstration activity.
- ◆ Quarterly monitoring and exceedance reports must document continuous compliance parameters, including summaries of any exceedances (e.g., monitored parameters outside the ranges established in the standard or during initial performance tests) and a description of the corrective action taken. In addition, results of compliance tests for lead compounds are to be submitted annually to EPA.

#### HOW MUCH WOULD THE PROPOSED RULE COST?

- ◆ The nationwide annual cost of the proposed rule would be \$2.6 million. The total capital cost of the proposed rule would be \$2.7 million. The capacity of the industry to recycle lead-acid batteries would not be adversely affected.

**FOR MORE INFORMATION...**

Anyone with a computer and a modem can download the rule from the Clean Air Act board of EPA's electronic Technology Transfer Network bulletin board by calling (919) 541-5742. For further information about how to access the board, call (919) 541-5384. For further information about the rule, contact George Streit at (919) 541-2364.

**FACILITIES NATIONWIDE AFFECTED BY THE PROPOSED SECONDARY LEAD  
SMELTER AIR TOXICS REGULATION**

1. Sanders Lead Co. - Troy, Alabama
2. GNB, Inc. - Vernon, California
3. RSR Corp. - City of Industry, California
4. Gulf Coast Recycling, Inc. - Tampa, Florida

5. GNB, Inc. - Columbus, Georgia
6. Exide Corp. - Muncie, Indiana
7. Refined Metals Corp. - Beech Grove, Indiana
8. RSR Corp. - Indianapolis, Indiana
9. Delatte Metals - Ponchatoula, Louisiana
10. Schuylkill Metals Corp. - Baton Rouge, Louisiana
11. Gopher Smelting & Refining, Inc. - Eagan, Minnesota
12. Doe Run Co. - Boss, Missouri
13. Schuylkill Metals Corp. - Forest City, Missouri
14. RSR Corp. - Middletown, New York
15. Master Metals, Inc. - Cleveland, Ohio
16. East Penn Manufacturing Co. - Lyon Station, Pennsylvania
17. Exide Corp. - Reading, Pennsylvania
18. General Smelting & Refining Co. - College Grove,  
Tennessee
19. Refined Metals Corp. - Memphis, Tennessee
20. GNB, Inc. - Frisco, Texas
21. Tejas Resources, Inc. - Terrell, Texas
22. PBX, Inc. - Norwalk, Ohio
23. Ross Metals - Rossville, Tennessee

